

What is Claimed is:

1. A master disk device for transferring magnetic patterns to both sides of a magnetic recording medium, comprising:
  - a first master disk having a first magnetic pattern formed on one side thereof for transferring the first magnetic pattern to one side of the magnetic recording medium;
  - a second master disk having a second magnetic pattern formed on one side thereof for transferring the second magnetic pattern to the other side of the magnetic recording medium,
  - wherein each of the first and second master disks has at least two alignment marks disposed outside the region of the magnetic pattern.
2. The device according to claim 1, wherein the alignment marks of each of the master disks are symmetrically disposed with respect to predetermined reference points of the respective magnetic pattern.
3. The device according to claim 1, wherein the alignment marks of the first master disk and the alignment marks of the second master disk have complementary configurations.
4. The device according to claim 1, wherein the master disks are optically transparent or semi-transparent.
5. The device according to claim 1, wherein the alignment marks of at least one of the first and second master disks are positioned on the same side where the magnetic pattern is formed.
6. The device according to claim 5, wherein the alignment marks of the other of the first and second master disks are positioned on the side opposite where the magnetic pattern is formed.
7. The device according to claim 1, wherein the alignment marks of each of the first and second master disks are positioned on the same side where the respective magnetic pattern is formed.

8. The device according to claim 7, wherein at least one of the first and second master disks are transparent or semi-transparent.

9. The device according to claim 7, wherein both the first and second master disks are transparent or semi-transparent.

10. A device for aligning a magnetic recording medium to a pair of master disks comprising a first master disk having a first magnetic pattern formed on one side thereof for transferring the first magnetic pattern to one side of the magnetic recording medium, a second master disk having a second magnetic pattern formed on one side thereof for transferring the second magnetic pattern to the other side of the magnetic recording medium, wherein each of the first and second master disks has at least two alignment marks disposed outside a region of the magnetic pattern, the device comprising:

- a first stage for movably and rotatably holding one of the first and second master disks;
- a second stage for movably holding the magnetic recording medium between the first and second master disks, wherein the first and second master disks are positioned with the magnetic pattern sides thereof facing the magnetic recording medium; and

- observing means for observing the positions of the alignment marks of the first and second master disks and an end surface position of an inner periphery or an outer periphery of the magnetic recording medium.

11. The device according to claim 10, wherein the observing means includes:

- first observing means for observing only the positions of the alignment marks of the first and second master disks; and

- second observing means for observing the positions of the alignment marks of the pair of master disks and the end surface position of the inner periphery or the outer periphery of the magnetic recording medium.

12. The device according to claim 10, wherein the master disks are optically transparent or semi-transparent.

13. The device according to claim 10, wherein the alignment marks of at least one of the first and second master disks are positioned on the same side where the magnetic pattern is formed.

14. The device according to claim 13, wherein the alignment marks of the other of the first and second master disks are positioned on the side opposite where the magnetic pattern is formed.

15. The device according to claim 10, wherein the alignment marks of each of the first and second master disks are positioned on the same side where the respective magnetic pattern is formed.

16. The device according to claim 15, wherein at least one of the first and second master disks are transparent or semi-transparent.

17. The device according to claim 15, wherein both the first and second master disks are transparent or semi-transparent.

18. A method of aligning a magnetic recording medium to a pair of master disks comprising a first master disk having a first magnetic pattern formed on one side thereof for transferring the first magnetic pattern to one side of the magnetic recording medium and a second master disk having a second magnetic pattern formed on one side thereof for transferring the second magnetic pattern to the other side of the magnetic recording medium, wherein each of the first and second master disk is transparent or semi-transparent, and has at least two alignment marks disposed outside a region of the magnetic pattern, the method comprising the steps of:

positioning the first master disks next to the second master disk so that the first and second magnetic patterns face each other;

moving or rotating, or both, one of the master disks that is transparent or semi-transparent relative to the other while observing the alignment marks of the first and second master disks with first observing means to align the alignment marks of the first and second master disks;

positioning the magnetic recording medium between the first and second master disks;  
observing with second observing means the alignment marks of the master disks and an inner peripheral or outer peripheral end surface of the magnetic recording medium; and  
moving the magnetic recording medium with respect to the aligned first and second master disks based on observation results of the second observing means.

19. The method according to claim 18, wherein the first observation means and the second observation means observe the alignment marks through the first and second magnetic disks.

20. The method according to claim 18, wherein the alignment marks of the first and second master disks are positioned on the same side where the respective magnetic pattern is formed.

21. A method of aligning a magnetic recording medium to a pair of master disks comprising a first master disk having a first magnetic pattern formed on one side thereof for transferring the first magnetic pattern to one side of the magnetic recording medium and a second master disk having a second magnetic pattern formed on one side thereof for transferring the second magnetic pattern to the other side of the magnetic recording medium, wherein each of the first and second master disks has at least two alignment marks disposed outside a region of the magnetic pattern, the method comprising the steps of:

fixing the position of one of the first and second master disks;  
observing the alignment marks of the one master disk with observing means;  
movably positioning the magnetic recording medium next to the one master disk with the magnetic pattern side of the one master disk facing the magnetic recording medium;  
observing with the observing means, an inner peripheral or outer peripheral end surface of the magnetic recording medium positioned next to the one master disk;  
moving the magnetic recording medium with respect to the one master disk based on observation results of the observation of the alignment marks of the one master disk and the magnetic recording medium to align the magnetic recording medium with respect to the one master disk;

movably and rotatably positioning the other of the master disks next to the magnetic recording medium so that the magnetic recording medium is positioned between the first and second master disks and the magnetic pattern side of the other master disk facing the magnetic recording medium;

observing with the observing means the alignment marks of the other magnetic disk; and

moving or rotating or both the other master disk with respect to the one master disk based on the observation results of the alignment marks of the one master disk and the other master disk to align the marks of the first and second master disks.

22. The method according to claim 21, wherein the alignment marks of the other master disk are positioned on the same side where the magnetic pattern is formed.

23. The method according to claim 22, wherein the alignment marks of the one master disk are positioned on the side opposite where the magnetic pattern is formed.